

CLAIMS

1. An automatic administration instrument for medical use for injecting a drug solution filled in a syringe, wherein a switching means provided on the body of the administration instrument is operated by pressing a part of the exterior of the body against a body region of a patient to which the drug solution is to be administered, thereby operating a first driving means so that an injection needle housed in the body protrudes from the body to perform needle insertion into the body region, and thereafter, a second driving means for driving the syringe is operated to administer the drug solution.
2. An automatic administration instrument for medical use as defined in Claim 1 wherein, after a detection means detects that administration of the drug solution is completed and/or that the administration instrument body is removed from the body region, the driving means is operated so that the injection needle that protrudes from the body to be inserted in the body region is housed in the administration instrument body.
3. An automatic administration instrument for medical use as defined in Claim 1 or Claim 2 wherein a speed of inserting the injection needle or a speed of pulling out the injection needle is variable.

4. An automatic administration instrument for medical use as defined in Claim 1 or Claim 2 wherein a speed at which the drug solution is administered by the second driving means is variable.

5. An automatic administration instrument for medical use for injecting a drug solution, said administration instrument being provided with an inner case that is slidably provided in an outer case of the body, an injection needle that is attached to the inner case, a syringe that is replaceably attached to the inner case and is filled with a drug solution, a first driving means for sliding the inner case in the outer case, a second driving means that is coupled to the syringe to administer the drug solution filled in the syringe, and a switch means for driving the first and second driving means;

wherein, when performing insertion of the injection needle, the first driving means is operated by the switch means to slide the inner case so that the injection needle protrudes from the outer case, thereby automatically inserting the needle into a body region of a patient to which the drug solution is to be administered.

6. An automatic administration instrument for medical use as defined in Claim 5 wherein, when performing removal of the

injection needle, the inner case is slid so that the injection needle protruding from the outer case is housed in the outer case, thereby automatically removing the injection needle.

7. An automatic administration instrument for medical use as defined in Claim 5 further including a detection switch for detecting as to whether the administration instrument body contacts the body region to which the drug solution is to be administered.

8. An automatic administration instrument for medical use as defined in Claim 7 wherein insertion of the injection needle is enabled when the detection switch detects that the administration instrument contacts the body region to which the drug solution is to be administered.

9. An automatic administration instrument for medical use as defined in Claim 8 wherein administration of the drug solution is stopped when the detection switch detects that the administration instrument does not contact the body region to which the drug solution is to be administered, during administration of the drug solution.

10. An automatic administration instrument for medical use as defined in Claim 8 wherein the operation of housing the

injection needle into the body is carried out when the detection switch detects that the administration instrument does not contact the body region to which the drug solution is to be administered, during insertion of the injection needle.

11. An automatic administration instrument for medical use as defined in any of Claims 7 to 9 wherein the detection switch also serves as a switch for driving the first and second driving means.

12. An automatic administration instrument for medical use in which plural kinds of drug solutions, or a drug and a drug solution, are housed in different rooms in a syringe, which rooms are separated by a partition wall, and they are mixed or dissolved in the administration instrument body to administer the resultant drug solution, said instrument including;

a driving means for displacing the partition wall, and a switch means for operating the driving means, wherein said mixing or dissolving is automatically carried out by displacing the partition wall by operating the switch means.

13. An automatic administration instrument for medical use as defined in Claim 12 further including a driving means for shaking the syringe in the administration instrument body after mixing or dissolving the plural drug solutions, or the drug and

the drug solution.

14. An automatic administration instrument for medical use as defined in Claim 12 or 13 wherein the syringe driving means is driven so that air releasing is carried out in advance of administration of the drug solution.

15. An automatic administration instrument for medical use wherein injection of a drug solution is not carried out when an injection needle is not attached to the body of the administration instrument.